

DRY CLEANERS

**A Drip + Drips
Equals**

?

PROBLEMS!!!

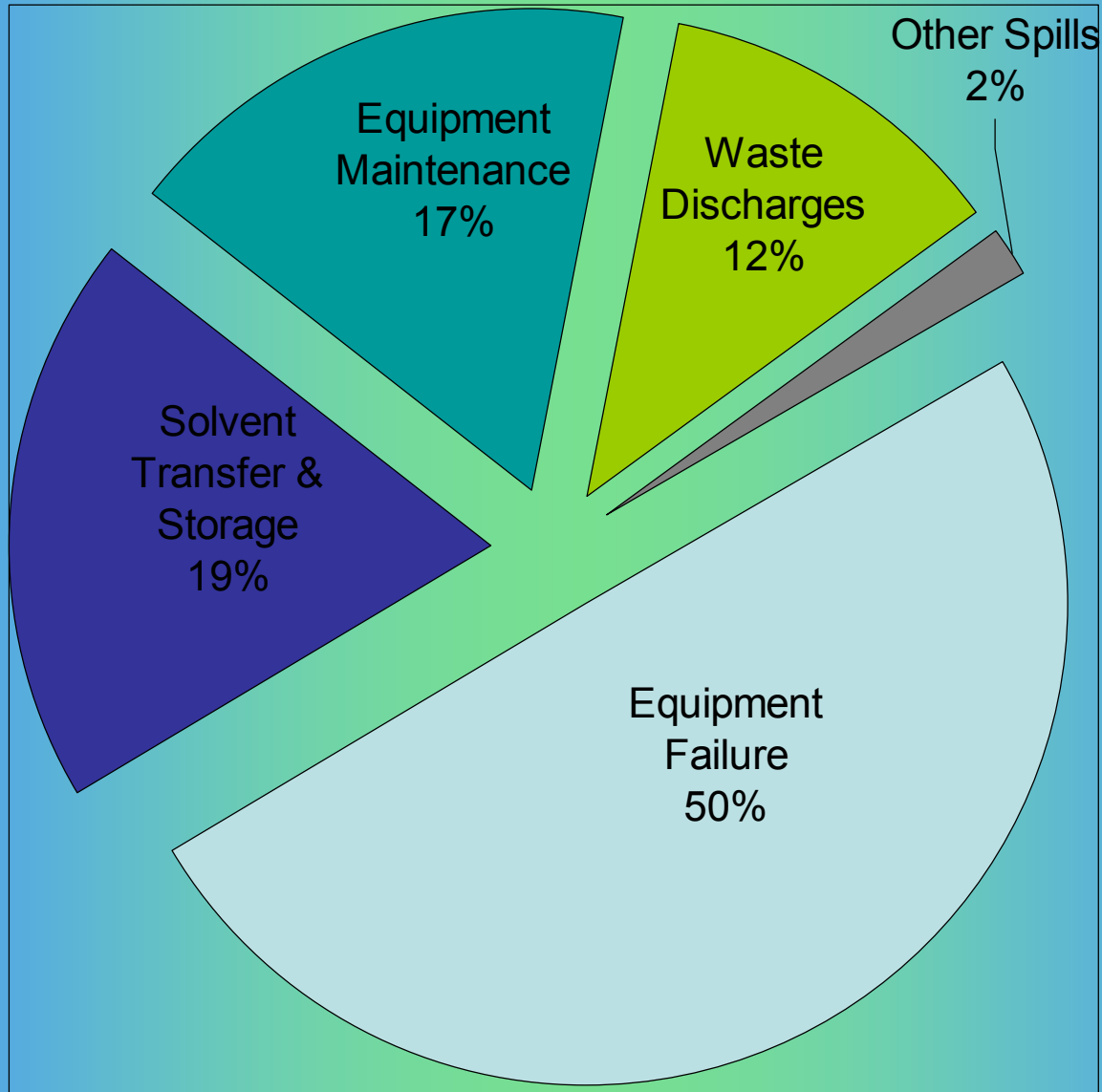
A solvent leak, dripping at the rate of one drop per second will result in one gallon of solvent being discharged during an eight hour (working) day (EPA, 1994).

Sources of Releases

(Data from study by Florida DEP)

<u>Spill/Discharge Scenario</u>	<u>No. of Incidents</u>
• Equipment Failure	208
• Equipment /Machine Operation	111
• Solvent Transfer & Storage	81
• Equipment Maintenance	73
• Waste Discharges	50
• Other Spills	7
• Totals	530

Sources of Releases



Environmental Investigation Areas

- Under machines
- Solvent Storage Areas
- Floor Drains
- Area Outside of Back Door
- Near Dumpster
- Beneath Floor

Investigation Methods

- Soil, water and vapor samples through floor slab in dry cleaners
- Soil and water samples from monitoring wells outside of the building
- Probe samples for soil and water both inside and outside of building



Environmental Impacts

Onsite

- Soil Contamination
- Groundwater Contamination
- Subsurface Utility Lines
- Adjacent Tenant Spaces - Vapors
 - Through floor
 - Under walls
 - Over walls



Environmental Investigation Areas

Back Door

Around Dumpsters

**Loading -
Unloading Area**

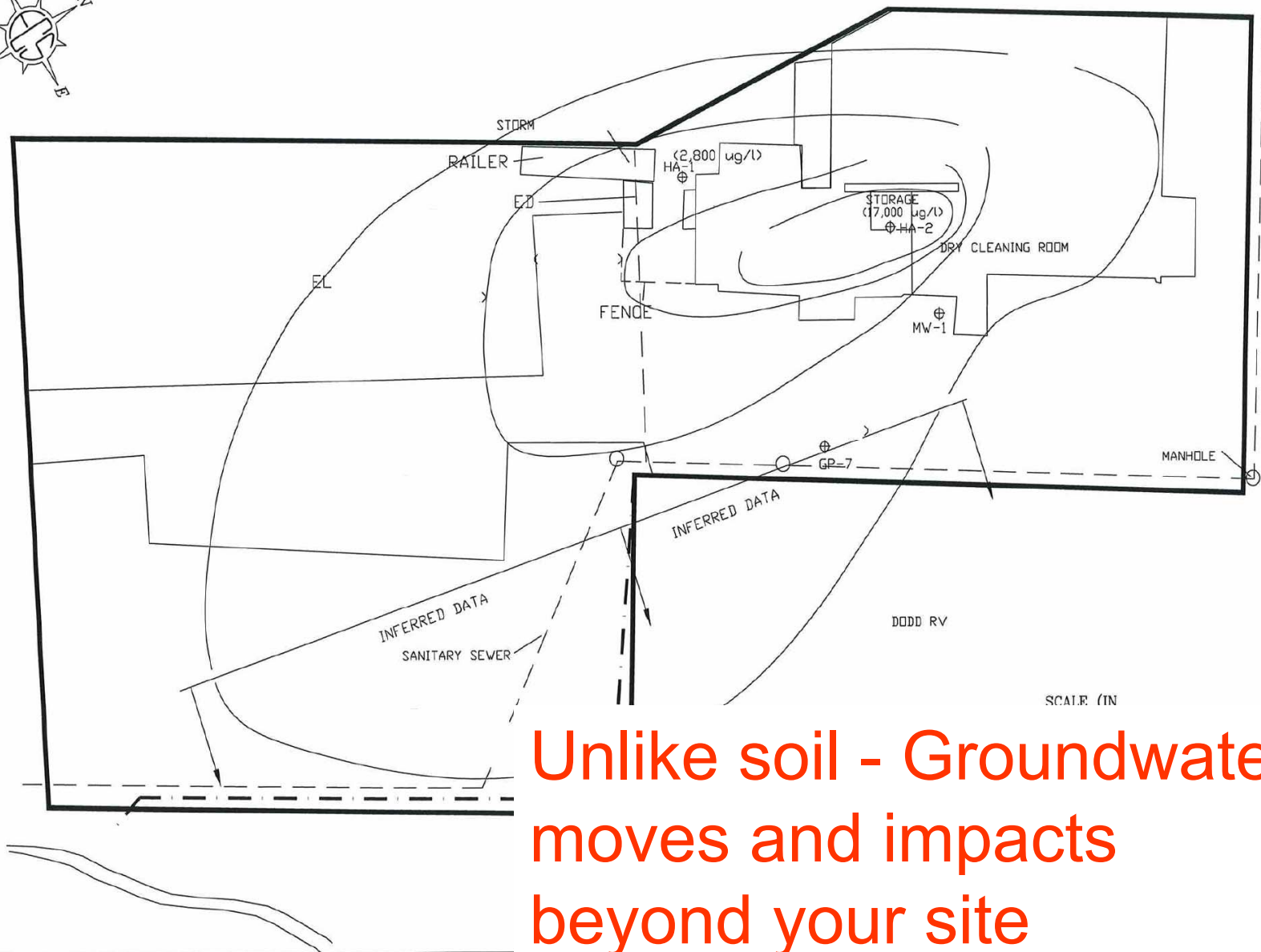
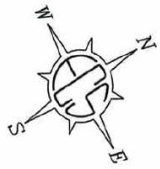
Parking Lot Drain



Offsite impacts

- Vapor intrusion into Buildings
- Drinking Water Wells
- Nuisance and Trespass issues





Unlike soil - Groundwater moves and impacts beyond your site



**Source area of 5 gallon spill
from tanker during delivery**

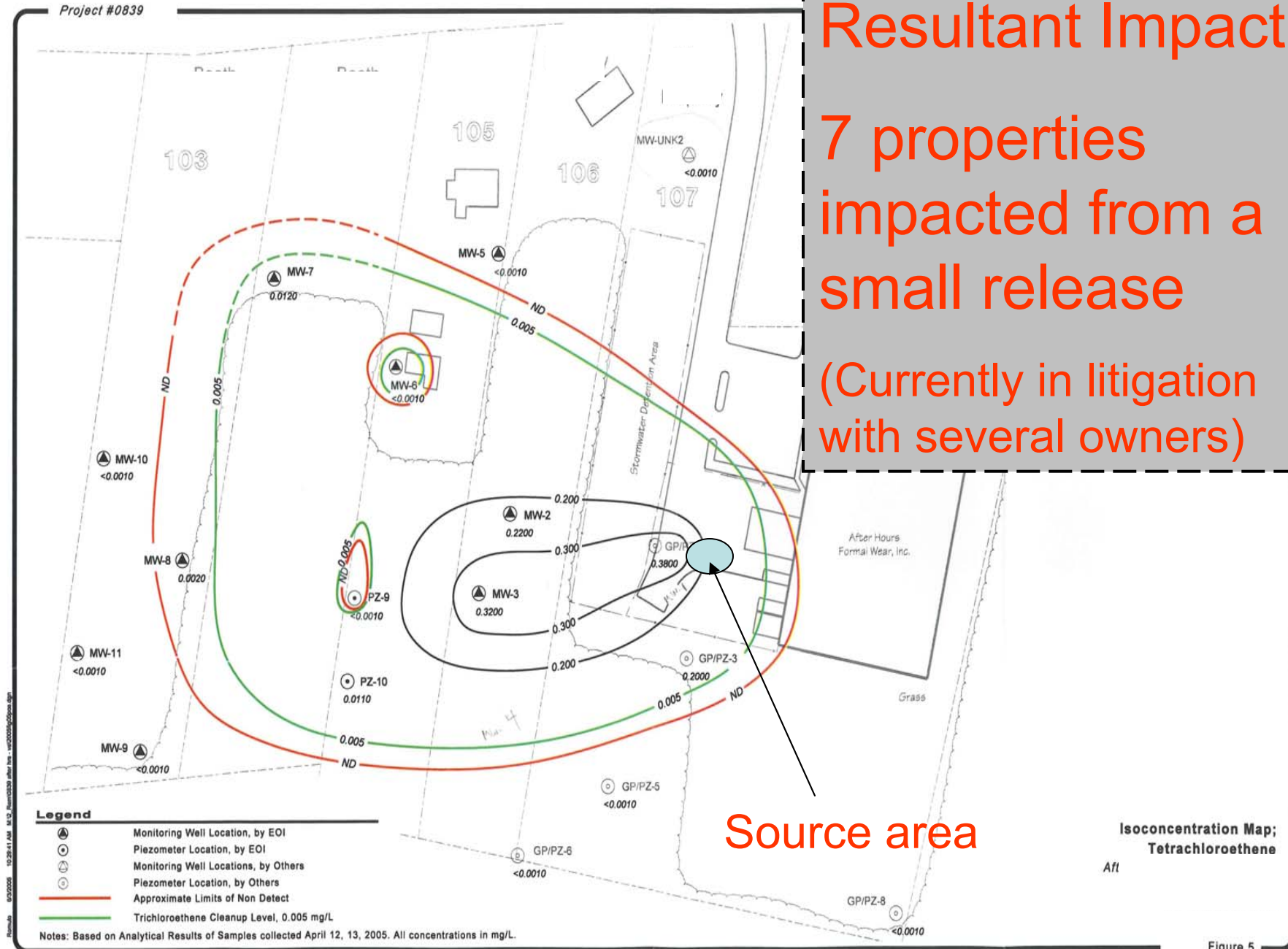


Figure 5 ■

Virginia Voluntary Remediation Program

- Risk Based Program
- Non Enforcement Based
- Voluntary
 - You don't have to enroll
 - You can withdraw
- Enforcement Immunity at case closure

Virginia Voluntary Remediation Program

- Nearly all dry cleaner site remediation in Virginia is handled by the VRP
- 92 Dry cleaner sites have enrolled in the VRP
- 36 sites have completed VRP cleanup
- 1 New site per month
- Average time to complete the VRP is 34 months

Virginia Voluntary Remediation Program

Cleanup Options

- Removal
- In Place Treatment
- Restrict property use
 - Can't do unless you own property
- Cost
 - Participant pays all cost
 - Currently no reimbursement mechanism
 - Lots Variables
 - Can easily exceed \$100,000

State Coalition for Remediation of Drycleaners

- 13 States and 3 represented states
- Virginia is considered a represented state which has a voluntary program but has no dry cleaner specific program and no reimbursement fund as the 13 states have
- Supported from the U.S. EPA Office of Superfund Remediation and Technology Innovation
- <http://www.drycleancoalition.org/>

Voluntary Remediation Program Website

- VRP Home Page

<http://www.deq.virginia.gov/vrp/>

- Risk Assessment Guidance

<http://www.deq.virginia.gov/vrprisk/raguide.html>

Risk Screening Tables

<http://www.deq.virginia.gov/vrprisk/tables.html>

Voluntary Remediation Program

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